

-30-

Having described the invention, the following is claimed:

1. A vehicle communication path-tracing system comprising:

portable transmitter means for transmitting a command signal intended for and identifying a target vehicle; and

a plurality of transceiver/controller means, each transceiver/controller means being located separate from said portable transmitter means, one of said transmitter/controller means being located at the target vehicle, at least one other of said transceiver/controller means being at an intermediate location separate from the target vehicle, the at least one intermediately located transceiver/controller means including means for receiving the command signal intended for the target vehicle and for transmitting a retransmitted command signal, said target vehicle transceiver/controller means including means for receiving the retransmitted command signal and for transmitting an acknowledgement signal in response to receipt of the retransmitted command signal, the acknowledgement signal being intended for reception by the at least one intermediately located transceiver/controller means that previously

-31-

transmitted the retransmitted command signal which was received by the target vehicle transceiver/controller means, the at least one intermediately located transceiver/controller means including means for receiving the acknowledgement signal and for transmitting a retransmitted acknowledgement signal.

2. A system as set forth in claim 1, wherein the at least one intermediately located transceiver/controller means is located within a vehicle other than the target vehicle and is a target vehicle transceiver/controller means for another vehicle communication system.

3. A system as set forth in claim 1, wherein the at least one intermediately located transceiver/controller means includes means for altering the command signal so that the retransmitted command signal indicates that retransmission has occurred.

4. A system as set forth in claim 3, wherein said means for altering the command signal shifts bits within a message stream of the command signal.

-32-

5. A system as set forth in claim 1, wherein the acknowledgement signal actuates a perceivable signal that indicates the path of retransmission of the acknowledgement signal.

6. A system as set forth in claim 1, wherein the at least one intermediately located transceiver/controller means retransmits the retransmitted control signal only once, in response to receipt of the command signal.

7. A vehicle communication path-tracing system comprising:

portable transmitter means for transmitting a command signal intended for and identifying the target vehicle;

a plurality of transceiver/controller means, each transceiver/controller means being located separate from said portable transmitter means, one of said transmitter/controller means being located at the target vehicle, at least one other of said transceiver/controller means being at an intermediate location separate from the target vehicle, the at least one intermediately located transceiver/controller means including means for receiving a command signal intended for the target vehicle and for transmitting a

-33-

retransmitted command signal intended for the target vehicle, said target vehicle transceiver/controller means including means for receiving the retransmitted command signal, for providing user perceptible confirmation of receipt of the retransmitted command signal at the target vehicle, and for transmitting an acknowledgement signal, the acknowledgement signal being intended for reception by the at least one intermediately located transceiver/controller means that previously transmitted the retransmitted command signal received by the target vehicle transceiver/controller means, and the at least one intermediately located transceiver/controller means including means for receiving the acknowledgement signal and for providing user perceptible confirmation of receipt of the acknowledgement signal.

8. A system as set forth in claim 7, wherein the at least one intermediately located transceiver/controller means is located within a vehicle other than the target vehicle and is a target vehicle transceiver/controller means for another vehicle communication system.

-34-

9. A system as set forth in claim 7, wherein the at least one intermediately located transceiver/controller means includes means for altering the command signal so that the retransmitted command signal indicates that a retransmission has occurred.

10. A system as set forth in claim 9, wherein said means for altering the command signal shifts bits within a message stream of the command signal.

11. A system as set forth in claim 7, where the at least one intermediately located transceiver/controller means includes means for transmitting a retransmitted acknowledgement signal.

12. A system as set forth in claim 7, wherein the at least one intermediately located transceiver/controller means actuates an auditory or visual indicator upon receiving an acknowledgement signal.

-35-

13. A system as set forth in claim 7, wherein the at least one intermediately located transceiver/controller means transmits the retransmitted command signal only once, in response to the receiving the command signal.

14. A method of remote vehicle communication, said method comprising:

transmitting a command signal, identifying a target vehicle and intended for reception at the target vehicle, through at least one intermediately located transceiver/controller;

receiving the transmitted command signal at the at least one intermediately located transceiver/controller located separate from the target vehicle;

transmitting a retransmitted command signal from the at least one intermediately located transceiver/controller;

receiving the retransmitted command signal at the target vehicle;

transmitting an acknowledgement signal, containing an acknowledgement identifying the target vehicle and intended for reception at the at least one intermediate transmitter/controller that previously transmitted the retransmitted command signal;

-36-

receiving the acknowledgement signal at the
at least one intermediately located
transceiver/controller;

transmitting a retransmitted acknowledgement
signal.

15. A method of remote vehicle communication,
said method comprising:

transmitting a command signal, identifying a
target vehicle and intended for reception at the target
vehicle, through at least one intermediately located
transceiver/controller;

receiving the command signal at the at least
one intermediately located transceiver/controller
located separate from the target vehicle;

transmitting a retransmitted command signal
from the at least one intermediately located
transceiver/controller;

receiving the retransmitted command signal at
the target vehicle;

transmitting an acknowledgement signal,
containing an acknowledgement identifying the target
vehicle and intended for reception at the at least one
intermediate transmitter/controller that previously
transmitted the retransmitted command signal;

-37-

receiving the acknowledgement signal at the
at least one intermediately located
transceiver/controller;

actuating user perceptible confirmation of
receipt of the acknowledgement signal;

transmitting a retransmitted acknowledgement
signal.